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OF THE

American Iris Society

April, 1930

PUBLIC GARDENS.

No. 35

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THE AMERICAN IRIS SOCIETY

REPORTS FROM THE TEST GARDENS, 1929

The Chairman has neglected the Test Gardens this year because of stress of work on the new Check List. However, they seem to have gone along under

Display Garden at New Brunswick, N. J., 1929

the able management of those in charge and it is hoped these kind people will not become discouraged at any discourtesy they may have received from a well-meaning but inefficient Chairman.

Morton Arboretum

Mr. Godshalk writes, "We have been rather unfortunate with our test plots of Iris this year. Due to excessive rain this spring and flooded conditions, also to late frosts and cold spells we have lost many of the small Iris plants which we received last year. We have decided to change the location of our test garden and would appreciate very much any assistance you could give us in securing more varieties than we now have. We had quite a satisfactory bloom on the plants in the nursery but were very much disappointed with the plants in the test ground."

There are about eight hundred varieties in this Test Garden and to make this a representative collection they should have many more so any plants will be welcomed with open arms. The names were checked according to the new Check List. A view of Iris in the nursery at the Morton Arboretum as they looked when in bloom this past season is our first illustration from this Test Garden.

"At Morton Arboretum"

Cornell

A number of members were able to view the Test Gardens here during the Annual Meeting. Much of the Iris was reset afterwards and hundreds of plants were sent under Mr. Pridham's able direction to other Test and Display Gardens. Besides the usual routine of Test Garden work Mr. Pridham has been a great help in looking up names and references in the catalogues in the very large collection at the College of Agriculture and his ready response to all suggestions is of the greatest assistance to a struggling Chairman. The long Cornell list was also checked over and new labels made to conform with the latest knowledge about the varieties and the collection thereby made much more educational.

Missouri

Mr. Paul A. Kohn reports from that Garden that they have exchanged plants with Cornell, that all is going well with them and that he needs plants of any newer varieties that members can spare so as to bring the collection up to date. The labels have all been changed here too to conform with the new Check List. The Chairman would like to start a good collection of Beardless Irises in this garden so gifts of new Siberian, Japanese and, in fact, all Beardless varieties will be very welcome.

Ames

From Iowa State College we hear from Professor E. C. Volz, "We are transferring a large number of specimens sent last year to the trial garden proper. I believe I wrote you last spring about last year's shipment of plants, all of them are in fine condition and made excellent growth. In general I can report satisfactory progress with the trial Iris garden and the interest in this is growing each year."

Brooklyn

Dr. George M. Reed reports the Japanese Iris season somewhat earlier and shorter than usual, doubtless due to the warmer and drier weather. Early flowers were satisfactory but the later ones were below normal with excellent bloom on varieties transplanted in the fall of 1927. The 1928 transplants did not bloom well. Many seedlings flowered, among them a few that were considered "good," also there were some very nice seedling types of crosses from various Siberian Irises.

Many of the Japanese Iris plants died during the season, mostly after the blooming period, the trouble in most cases being associated with the Japanese Iris maggot—*Chaetopsis fulvifrons*. In some cases characteristic root-rot seemed primarily to be the trouble. The insect is causing much delay with the studies as too many plants are lost and lack of material often retards progress.

Experiments in reference to transplanting have been started and definite information as to the results of these will no doubt prove of value to horticulturalists, particularly nurserymen.

Large collections of Japanese and Siberian Irises were sent to Ames, Missouri and California Botanical Gardens from the surplus when the older collection was divided. Other exchanges of materials were made and valuable varieties of other groups were thus obtained.

The collection of Japanese varieties in this Test Garden at the present time is probably the largest in the world, for much effort has been put upon bringing together every variety that could be procured. The mass of information which has been gotten together at the same time is a splendid foundation for an exhaustive research into this portion of the genus Iris and the sending of Dr. Reed to Japan to continue this study at the source is the legitimate outcome of the original project. The interest shown in this Project by the Brooklyn Botanic Garden is one of the most valuable assets that the American Iris Society may feel they have behind them.

Packing and labelling Irises to go to Skylands farm, New York Botanical Garden, 1929. Centre, John Hartling, faithful Iris worker and assistant head gardener Right, George Friedhoff, head nurseryman in charge of propagating houses.

New York Botanical Garden

Here the work has been proceeding along many lines, all very much the same as those of last year except that there are more ramifications. The collections have been well used by both the public and the Staff for study, for botanical as well as horticultural purposes. The season was a long one and it started early.

A great many plants were sent to other Test and Display Gardens though all demands were not acceded to as some of the collections were so diseased it was judged wise not to distribute any plants from them although they had to be dug and divided. In relation to this diseased condition some very interesting experiments have been made by Dr. B. O. Dodge who began last year with two beds in the Color Planting. Noticing the results from his work there and the ravages in adjacent beds which had not been treated, it was decided that the best thing to do would be to replant so all the rest of the plants were divided and reset. The old soil was dug, thoroughly sterilized with formaldehyde and new soil put in. In spite of the long, severe drought at this time and later, the plants made wonderful growth, showing that they are certainly less subject to disease when clean and growing under a proper state of cultivation. These reset plants will be covered this winter with a very thin layer of salt-hay to prevent heaving in spring. Dr. Dodge will shortly publish the results of these experiments in the Botanical Garden Journal and, we hope, also in one of our Bulletins.

The Alphabetical Garden is suffering from these same diseases which seem to be root-rot and the Iris maggot together with some rusts, and the plants will have to be raised and the soil treated early in the spring. New Labels

will be made to bring the whole collection up to date and to correct old spellings.

Some of the Siberian varieties were moved to beds where it is hoped they will flourish whereas the old occupants from Florida languished. Some plants raised from crosses made by Mr. Moore will be brought here early in spring from the nursery and planted in blocks to give a good display. A set of these will be sent to a member who has consented to watch them and decide whether they are suitable for introduction to commerce. He will compare them with the best of the European and American varieties for he grows only the best.

Packing and labelling Irises to go to Skylands farm, New York Botanical Garden, 1929. Centre bending down John Borin, faithful helper in all A. I. S. work at the New York Botanical Garden.

In the nursery plants which bloomed from crosses made under Dr. Stout's direction were checked, those not wanted were discarded and some hundreds were sent to Mr. Clarence Lewis who very kindly is growing them under proper conditions on his grounds at Skylands Farm where they will be available in case Dr. Stout needs them for reference at a future time. This will leave room for the seedlings from this year's crosses as space is much in demand and it is a continual juggling act to plant Irises in this nursery! Through the help of Captain Louis Schmidt paintings were made of some of the more interesting crosses and we hope to be able to have more done next season and thus put on record unusual plants.

Dr. John K. Small collected hundreds of plants in Florida and Louisiana which are in the frames and also in rows between willows, poplars and hollies where they will be studied. It is already known that there are several new species among them. Inquiries about these new Southern species are coming in in great numbers to this Chairman and she and Dr. Small intend to distribute as many seeds as can be collected but naturally they will only be sent to those likely to grow the plants and report on their behavior in different localities. Eight of these species were described and figured in the March

number of Addisonia which has been made available through the American Iris Society.

Some plants were received from breeders for trial and judging in 1931. If this is to become a worthwhile trial more breeders must send seedlings. They should remember that all the plants are grown together and receive the same treatment and that whether conditions are good or bad this means that some plants will stand out ahead of the others. If we can see that breeders want to have their Irises tried out for real garden value we will establish trial and judging gardens at two other Test Gardens shortly and possibly in three and the localities will be in widely different parts of this Country. Plants for this purpose must be addressed in care of the Head Gardener, N. Y. Botanical Garden, Bronx Park, New York, N. Y. and marked FOR TRIAL.

Texas Agricultural Experiment Station

The good news from this newest of our Test Gardens is that the proper agreement between both Institutions has been signed and the Test Garden is under way. Already plants have been sent from the New York Garden and we hope many others will go forward early in the spring. The Texas planting season is different from ours and we ask members if they can to ship to this garden very early in spring or in the autumn, even quite late in the autumn. The great heat during July and August makes it hard for newly set plants to start. We are very anxious to find out what Irises will do well in this section and the only way is to send every sort we can get hold of to this Test Garden so let us help it all we can!

California

Owing to an unforseen situation in the real estate market the California Botanical Garden is without funds at the present time to carry out its plan and has to mark time until some arrangement can be made for endowment. It will be best, then, for members not to send more plants to this Iris Test Garden though those already received will be maintained.

Respectfully submitted,

ETHEL ANSON S. PECKHAM,
Chairman, Test Gardens.

DISPLAY GARDENS, 1929

During the season of 1929, ten new gardens have been added to the list of Display plantings in which the American Iris Society is co-operating, making a present total of thirty gardens established throughout the country. The latest affiliations are at Haverill, Massachusetts; at New London, and at Storrs, Connecticut; Fargo, North Dakota; at Memphis and Lookout Mountain, Tennessee; Bozeman, Montana; LaGrange, Georgia; and at Scranton, Pennsylvania. Sandpoint, Idaho, will be first on the list for 1930. Ten of the Society's regional divisions are now represented by one or more gardens.

REGION I—The New England Division leads in the number of gardens, with two in New Hampshire and four in Connecticut, and three in Massachusetts. In the latter state, the SPRINGFIELD planting at Forest Park, under

the care of the Department of Public Parks, was established in 1927, while the AMHERST garden at the Massachusetts Agricultural College was begun a year later, and the Haverill Park Department is in charge of a planting, new last season, in Winnekenni Park, at HAVERILL.

In Connecticut, STONINGTON'S planting at The Old Lighthouse Grounds has been longest established, being under the joint supervision of the Stonington Garden Club and The Historical Society. The sponsors arranged for an exhibition in the garden this past season, from June third to tenth, when the bloom was at its best. The plantings at STORRS, in charge of the Connecticut Agricultural College, at NEW BRITAIN, sponsored by the Board of Park Commissioners, and at Connecticut College in NEW LONDON are all new, being established late in 1928—the New London garden will not be in its permanent location until this season.

The DURHAM collection, established in 1927, is located on the grounds of the University of New Hampshire and is under the supervision of the Department of Horticulture, College of Agriculture. At KEENE a newly-planted garden is sponsored by the Keene Normal School, and located at the School.

It is through the efforts of Mrs. Nesmith that it has been possible to established the majority of these New England gardens, for she has enlisted the interest of sponsors, chosen locations, and secured planting stock, supplying a quantity from her own garden. Much credit is due her for her untiring efforts in this region of which she is Vice-president.

REGION II—The New York gardens were the first to be established, being set previous to 1926, and have had yearly care and the addition of new varieties. For each of the three, Library Grounds were chosen as location. The NEW ROCHELLE garden is sponsored by the American Iris Society Group of New Rochelle; the Garden Club of Larchmont and the village authorities are jointly in charge at LARCHMONT; the third planting of this region is located at MOUNT VERNON.

REGION III—At Newark and New Brunswick are the two New Jersey plantings. The Essex County Park Commission has charge of the Garden at Orange Park, NEWARK, and the State of New Jersey Agricultural Experiment Station sponsors the planting on the Station grounds at NEW BRUNSWICK. Mrs. McKinney has aided both these gardens of the Eastern Division, supplying plants from her own collection.

The SCRANTON, Pennsylvania, planting, newly affiliated late last year, will be under the supervision of the Garden Department of the Century Club of Scranton, and will be located in Nay Aug Park. Planting stock will be supplied this garden during the present season.

REGION V—The South Atlantic Region is represented by four gardens, two in Georgia, and two in the Carolinas. Both Georgia gardens were new in 1929. The Atlanta planting is sponsored by the Peachtree Garden Club, and located at the High Museum of Art, where it will be assured of many visitors. The Greenhouses of the Cason J. Callaway Company supervise the planting at The Log Cabin in LaGRANGE. Both the plan and the location of this garden are attractive, and the planting already includes an excellent collection of standard and many of the newer varieties of iris, as well as representatives of the bulbous section.

Among the broad lawns back of this Log Cabin is the newly-established Display Garden at LaGrange, Georgia.

The City of COLUMBIA and the Garden Club together have charge of the planting at Valley Park—a collection now two years old. This South Carolina garden is rapidly acquiring a list of good varieties. At GOLDSBORO, North Carolina, the planting at Herman Park is sponsored by the Garden Club of Goldsboro and by the Department of Parks. Though the stock was newly set last season, the collection makes an excellent showing, and promises well for the future.

REGION VI—But one garden is thus far in affiliation in the North Central Division—that at GOODLAND, Indiana, where, through the generosity of a former townsman, the late Mr. T. E. Mitten, of Philadelphia, a new park is being developed in which the iris planting will find its permanent quarters. As it is situated along a transcontinental highway, the garden should be available to many.

REGION VII—The two Tennessee affiliations were newly made last year, and are to date the only ones in the South Central region. Planting was begun in the MEMPHIS garden late in 1929, and more stock will be added this year after the flowering season is past. The Memphis Garden Club and the Park Commission are in charge of the planting at the Tri-State Fair Grounds. The Garden Club of LOOKOUT MOUNTAIN will sponsor the Display Garden to be situated in the Park on the Mountain, planting to be done this season. With so beautiful and historical a background, many visitors should enjoy this garden when it has attained sufficient maturity for exhibition.

REGION VIII—Three states—Minnesota, Wisconsin, and North Dakota—are represented in the Display Gardens of the North Border Region, one garden in each. First to be established was that in DULUTH, situated in Portland Square, and sponsored by the Iris Department of the Duluth Peony Society. This collection is being increased rapidly, and should soon attract many who are interested in iris. The garden at MILWAUKEE, under the supervision of the Milwaukee Park Commission and the Milwaukee County Horticultural Society was begun later in the same year—1928—and will have additions to its collection in Sherman Park this coming planting season. The FARGO garden was new in 1929. It is located at the North Dakota Agricultural Experiment Station, and is under the authority of the Department of Horticulture. Especial attention is here accorded species and the beardless varieties. Reports as to the hardiness of various iris should be of value from both the Duluth and the Fargo plantings.

REGION IX—In the Prairie Division there is a display planting in each of three states. Early in 1928 the University of Nebraska's College of Agriculture together with the LINCOLN Garden Club made arrangements for cooperation with The American Iris Society of the garden already existing at the Agricultural College. With the yearly addition of new sorts, this planting comprises an excellent collection, containing as it does, a large number of the Sass varieties, which were originated near by. In TOPEKA, Kansas, a two-year-old garden is located at Gage Park, sponsored and largely supplied with planting stock by the Topeka Horticultural Society. This collection is well worthwhile, has good care, and shold show considerable bloom this season, the weather permitting. BELLEVILLE, Illinois, has the third garden of the region, under the supervision of St. Henry's College, and is ideally situated

on the College campus. The Belleville collection was increased this past year by a gift from its garden neighbor just across the Mississippi—the Missouri Botanic Garden, and had promise of a collection from Mr. Williamson also.

REGION X—The garden at Dallas is the sole representative in the South Border Region. The planting was begun in 1929, sponsored by the Garden Club of Dallas, and has an interesting setting—the Parkway on Highland Avenue, West. This is the most southerly of gardens co-operating with the American Iris Society.

REGION XI—BOZEMAN, Montana, had the first Display Planting in the Northwest Mountain Division, and its setting was undertaken last year under the supervision of the Montana State College. This garden is located on the College campus and should be in a position to accomplish much in introducing the better varieties of iris to gardeners in the surrounding territory, where as yet the newer sorts are but little grown.

The first garden of 1930 will be situated at Sandpoint, Idaho. It will be sponsored by the University of Idaho at the SANDPOINT Substation. This will have the distinction of being both the most northerly and the farthest west of the plantings which are thus far in co-operation with the American Iris Society. It will acquire stock this season.

To those who have so generously aided the Display Gardens by supplying planting stock, the Committee is deeply grateful. Gifts have been received from the Missouri Botanic Garden; Indiana contributors were the Brook Gardens and Mrs. Kennedy, of Goodland, Iris Fields, of LaFayette, and the Longfield Gardens at Bluffton; from St. Paul came the gifts of Mr. Schreiner and of the Riverview Gardens; while Illinois donors were Mrs. Pattison, of the Quality Gardens at Freeport, and Mrs. Fellows, of Belvidere. Mr. Schreiner has made possible the undertaking of three additional gardens by his gift of large collections of excellent varieties, as well as having supplied new sorts to the established gardens in his own region.

May the Committee ask that the thirty co-operating Display Gardens be more punctual in sending to the chairman the two reports yearly that are required by the Society? A brief report in the Spring, and in October a full account of the work done during the season are of great aid in keeping accurate records of the plantings. Had such reports been available, a fuller resume of each garden's activities would have been possible in this annual review.

To be of interest and service to gardeners, Display Gardens must necessarily contain the best of the standard varieties together with representative colors and types of the newer sorts. Exhibition plantings do not hope to maintain complete collections for study and for scientific reports as do the Test Gardens—the sponsors of each display planting propose to offer, where it is easily available and in a pleasing setting, a representative collection correctly labeled, properly cared for, and kept up to date by frequent additions. Through the medium of such plantings it is possible to present to the public the value of the better iris, both for mass plantings and for the beauty of the individual flower, and thus to demonstrate the adaptability of iris to gardens everywhere.

Further expansion in this project and the maintenance of gardens already in existence depend entirely upon the supply of plants available. Only through the co-operation of individuals is progress made possible, for the increase from established display plantings is not yet sufficient to supply the stock necessary for new gardens. Undoubtedly the best source of supply for some time to come will be from owners of private collections from which they will share surplus. It is not fitting that commercial growers be called upon repeatedly to make up deficiencies in the supply each season, nor can the Committee continue to presume upon the generosity of a certain few to maintain an annual burden which would cease to be a burden were it carried by many.

Until there is ample stock, the Committee must continue the policy of giving preference, in the matter of new gardens, to widely scattered locations rather than to aid in establishing plantings in sections already represented. May the Committee hope for a widely increased interest—and ensuing generosity—among Iris Society members and friends? Brief notations of surplus, available as early as possible in the season, would be greatly appreciated. The recent affiliations in Texas, Montana, and Idaho have considerably widened the range of display plantings—perhaps 1930 will see the line extended from coast to coast, as it is already drawn from the north border to the south.

Respectfully submitted,

OLIVE BURGESS HOORNBEEK.

Display Garden Planting Stock for 1929

Storrs, Connecticut—additional stock of 85 varieties—from Mrs. Kennedy, Goodland—July 19th.

Fargo, N. Dakota—foundation stock of 100 varieties—from Hoornbeek, Elgin—June 18th. Additional stock of 42 varieties—from Schreiner, St. Paul—October 3rd. (Beardless sorts) of 15 varieties—from Brook Gardens, Goodland—November 1st.

Memphis, Tenn.—foundation stock of 65 varieties—from Kennedy and Hoornbeek, Goodland—November 3rd.

Dallas, Texas—foundation stock of 100 varieties—from Kennedy and Hoornbeek, Elgin—June 18th.

Bozeman, Montana—foundation stock of 75 varieties—from Hoornbeek, Goodland—June 21st.

New London, Conn.—preliminary stock of 15 varieties—from Hoornbeek, Goodland—June 26th.

(Will not be ready to plant garden until summer of 1930.)

LaGrange, Georgia—foundation stock of 83 varieties—from Hoornbeek and Jackson, LaFayette—September 3rd. Additional stock from 42 varieties—from Schreiner, St. Paul—October 4th. Additional stock of 70 varieties—by purchase.

Scranton, Penn.—foundation stock of 83 varieties—from Hoornbeek and Jackson—September 3rd.

Lincoln, Nebraska—additional stock of 35 varieties—from Hoornbeek, Goodland—June 26th.

Columbia, S. C.—additional stock of 100 varieites—from Brook Gardens, Goodland—August 25th.

Topeka, Kansas—additional stock of 35 varieties—from Hoornbeek, Goodland—August 14th.

Belleville, Illinois—additional stock of 65 varieties—from Missouri Botanic, St. Louis—July 25th. Additional stock of 55 varieties—from Hoornbeek, Goodland—August 14th.

Duluth, Minnesota—additional stock of 63 varieties—from Jackson and Hoornbeek—September 3rd. Additional stock of 42 varieties—from Schreiner, St. Paul—October 4th. Additional stock of 12 varieties—from Quality Gardens, Freeport—September 23rd. Additional stock of 12 varieties—from Riverview Gardens, St. Paul—August 27th.

Goldsboro, N. C.—foundation stock of 105 varieties—from Hoornbeek and Kennedy—July 12th.

Atlanta, Goergia—foundation stock of 100 varieties—from Hoornbeek, Elgin—June 18th.

New Brunswick, N. J.—additional stock of 65 varieties—from Hoornbeek, Goodland—July 25th.

Durham, N. Hampshire—additional stock of 26 varieties—from Fellows, Belvedere, Ill.—September 20th.

Stonington, Conn.—additional stock of 60 varieties—from Hoornbeek and Kennedy—August 8th.

CONFESSIONS OF AN IRIS LOVER*

PART OF THE ADDRESS OF MRS. DOUGLAS PATTISON OF FREEPORT, ILL., BEFORE THE COMMERCIAL PEONY AND IRIS GROWERS MEETING IN CHICAGO, DEC. 2

I think it is admitted, by practically all interested, either commercially or as amateurs, that the popularity of the Iris, during the past ten years, has increased more rapidly than that of any other flower. Ten years ago the growing of fine Iris was practically unknown; now there are thousands of people all over the United States engaged in the culture of rare sorts.

Now, there must be a reason, and this is what I think the reason is: I believe that the Iris, because of its beauty, its wonderful shades which duplicate almost every color of the spectrum, its compact green foliage—which, of itself, adorns any flower border—its lack of need of any particular care and its hardiness in almost any soil and in every climate, is going to be the leading perennial, not alone in this country, but in foreign countries as well. Last year when I was in England, I was surprised at the strides it had made there, where it is second only to the Rose.

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* From *The Florists Exchange and Horticultural Trade World*, January 11, 1930.

The Iris readily adapts itself to hybridization and each blooming season hundreds of people busy themselves making crosses between different varieties; I believe that at least 100,000 new seedlings bloom each year. Of these probably not more than 15 or 20 are of sufficient merit to be preserved. No seedling is worthy of preservation unless it is greatly superior in size, form, height, or substance to some existing variety or is something new and unique in color. All the rest should be destroyed.

However, this tremendous experimentation in crossing varieties, does bring us, each year, a small number of new things that far outshine many of the old favorites, so that many kinds that were considered marvelous eight or ten years ago are now in the mediocre class, or discarded entirely.

The very large new whites, yellows and pinks, the intense dark blues and light blues, the rich velvety quality of the Dominion seedlings and some of the exquisite new color combinations of M. Cayeux of France and a number of our own American hybridizers, will thrill you when you see them for the first time.

Of course I love Iris—I do not believe anyone can make a success of a business if they do not like their stock in trade—but I wish to impress upon your minds that I am in the business of buying and selling Iris for the purpose of making money. And I firmly believe that any dealer who is in the Iris business at this time and who does not make a wide margin of profit is at fault, either in the way he conducts his business or as to the class of stock he carries.

We are in the midst of a great world-wide wave of enthusiasm for Iris; a gigantic fad, you may call it, but I think it goes deeper than a fad. It is based upon solid facts and these are: (1) the Iris is a remarkably beautiful flower; (2) it is hardy, all over the United States and Canada; (3) it requires practically no cultivation; (4) it does not have to be taken up and stored over the Winter; (5) it has a greater color range than any other perennial; and (6) most important of all, it is more adaptable to the amateur hybridizer than any other flower.

You can get characteristic flowers from seed in less than half the time you can from the Peony and at least 40 per cent of the retail demand for fine Iris now is from the amateur hybridizers who are increasing by thousands, each year, in America and Canada. This adds materially to the market for the new and rare

Iris because these ambitious new hybridizers want only the finest and rarest to experiment with.

I can remember that about 12 years ago I paid $1.25 for an Iris which, at that time, was about the highest priced sort catalogued. It was Perry's Black Prince. In my 1930 catalog, I shall list one at $100, one at $75, one at $60, one at $50, two at $40, one at $35 and a great many at between $10 and $35. I have examined the situation in practically every State and in some places abroad and it is my judgment that the big Iris wave is only fairly well started. I say this in spite of the fact that some Iris dealers have lost money, some barely make a living and some have been forced to sell out their business to others.

The great fault with most Iris dealers is that they wish to go along with the same old stock year after year. (If any of you think you can make money selling Queen of the May, Mme. Chereau, Pallida dalmatica, Honorabilis, Lorelei, Fairy and Monsignor, any one of which are quoted in the trade journals at from 2c. to 3c. each, then you and I do not talk the same business language.

In handling the better class of Iris it is an easy matter to fill an order for $200 worth and have it on its way within a half hour. How long would it take to dig and pack 6500 Iris which at 3c. each would bring $200?

The care, attention and overhead—not counting the cost of the individual plant—is scarcely more for an Iris that sells for $100 than it is for the variety that sells for 3c.; the cost of digging, packing and postage is the same on both, although one is worth 2000 times more than the other.

A few days ago I received a letter from the owner of one of the largest nursery firms in the East who said he was firmly convinced that there was no money in Iris, because he had paid as high as $2 for varieties the price of which, within two or three years, had dropped to 75c. a root. In most lines of business this would be an irrefutable argument, but it is not true of the Iris business, because of their enormous increase, if properly handled.

As an illustration, I wish to call your attention to the following facts: In 1924 Mr. Bliss introduced the Iris Majestic. It was a very fine Iris and I paid $225 for five plants; with the duty of 30 per cent. and extra transportation, brokerage and other charges, the cost was brought up to over $300. Then one of the plants died,

so that each remaining plant stood me a little over $75 each—quite a price for those days. In my 1925 catalog, I listed it at $45. Those four original plants are all that I have ever bought of that variety, but they increased enormously and each year, although I sold quantities, I made deep cuts in the price. This past Summer, my price was $2.50 and next year I shall have a stock of approximately 1200 which I expect to price at about $2 each. From 1925 to 1929 the price declined from $45 to $2.50, yet I made more money on this Iris than any variety I ever handled.

My nursery friend was probably right in theory, but my facts are stronger than his theory.

Last year I introduced as beautiful an Iris as I have ever seen. Originated by Dr. P. A. Loomis of Colorado Springs, I own the stock. Priced at $30, I sold 30; then I stopped selling it as I did not wish to deplete my foundation stock. I have refused orders for 13, and have orders for 15 plants on file for next season. This year I shall increase the price to $40 for it showed up much finer this season than when I first saw it and purchased it. Then, too, the stock is very scarce, as no person was permitted to have more than one plant. But anyone who purchased this variety should have three for one at least, or $120 worth of plants for which he paid $30.

The great profit to be made on Iris is from the enormous increase. If a shoe merchant stores away in the Fall a pair of shoes, such as he had sold during the Summer for $5, he could not expect to sell them for more than $3.50 the following Spring; but an Iris dealer who sets out an Iris in the Fall, which would have sold for $5 during the Summer, would have from three to seven the next Spring; indeed, I have had them increase as much as 12 and 14 times in one season. Thus, even if the Iris dealer cuts the price from $5 to $3.50, he still has Iris worth from $10.50 to $25 and does not have the loss the shoe dealer does.

However, if you wish to make money in the Iris business, you must use good judgment and discrimination in the varieties you list. I will assume that no one wants to buy an Iris that is not hardy in any part of the country; the other main essentials are, then, strength and vigor, whether it is a "good increase" or not, and, finally, whether it is a new color or shows important improvement in size and height over some existing variety.

There are hundreds of new varieties listed which are seedlings

of Lent. A. Williamson, Dominion, Ambassadeur and other well known sorts, which are only slightly different from their parents and worth absolutely nothing from a commercial grower's standpoint. Do you suppose that if a customer sees Ambassadeur growing in your own garden marked 50c. and another Iris slightly different but the same in general effect marked $5 he is going to pay you $4.50 for the very slight difference? Not if he is in his right mind, he won't.

I travel perhaps 4000 miles each year, looking over Iris at blooming time; I wish to see, with my own eyes, what is being offered. Many hybridizers send their best seedlings to me to be grown and judged; I selected Blue Velvet in this manner. Last year I made a trip abroad and expect to go again this next Spring. I aim to add not to exceed 20 varieties each year and I prefer to add fewer than that.

I introduce them at a price that gives me a fair profit and usually keep them at the same price the second year; after that I begin to cut the price, depending upon the increase and the demand for that variety. When the price gets down to 20c. I put them in a bargain list and if they are not all sold out that year, I bury them in the Fall. And that's that. When an Iris gets down to 20c. the overhead is too heavy for me to afford to carry it. By this process I usually drop 20 varieties from my catalog every year which, with the 20 new ones I put in, keeps the number I list practically the same from year to year.

I have seen Iris growers carefully digging, separating and planting some of the old sorts that I have discarded. Some of them say, "I can't bear to throw them away." I think I am as fond of Iris as anyone, but I want to announce here and now that I am not going to establish and maintain at my own expense an Old People's Home for Aged and Superseded Iris. If John D. Rockefeller or Henry Ford wishes to do so, it's all right with me, but I won't contribute a nickel towards it.

Now that I have so earnestly tried to convince you that money can be made growing Iris, I presume you would like to have me tell you the varieties to grow. I shall gladly do this, taking the self colors first and naming the best of both foreign and domestic origin.

Of the pure whites I consider Michelline Charraire and Snow White the best, because they are both absolutely hardy and both

increase rapidly. Snow White is the larger flower, but Michelline Charraire is a little more refined. Purissima and Shasta are more beautiful, but I have tried them both and neither can be recommended as hardy in our climate. White and Gold, Mr. Nicholl's new one, has not been sufficiently tested by me to make my judgment worth while. Taj Mahal is a splendid garden white, a little inferior to the two I have mentioned, but a very good flower and a sturdy grower. Zada is a very good white; not quite as tall as Taj Mahal, but about the fastest increaser I have grown. The average increase is about eight or ten to one.

Among the yellows, I am listing this year for the first time the famous W. R. Dykes. It is not a clear yellow, the falls being slightly venated with violet. It is by far the most beautiful light colored Iris I have ever seen. It is not, however, a rapid increaser.

For a clear, pure yellow, I am listing this year the crowning triumph of M. Cayeux, called Pluie d'Or or Shower of Gold. It received the Wm. R. Dykes Medal in Paris in 1928, the highest tribute which can be paid to an Iris. It is a large flower of the greatest substance of a rich golden yellow color without any markings. This last Spring we had a 41 in. bloom stalk on a single root planted in October, 1928. It is a very strong grower and will multiply, on an average, five or six fold a year. Helios is a superb Iris of great size and height, not as yellow as Pluie d'Or and not as good an increaser. Golden Glory is a very fine yellow of good size and shape; Coronation is a good garden yellow and so is Amber.

This year I have the privilege of introducing the finest pink Iris which has yet been offered; it is to bear the appropriate name of Pink Satin. It is a heavy, satiny, pure pink and was originated by Jacob Sass. In a class by itself, it is certain to create a sensation. Up to this year it was rather a close race in pinks between Cayeux's Fascination and Murell's Allure, with Hamese and Midgard by H. P. Sass not far behind. To show you the great improvement and the onward march of pinks on the last few years, fine pinks like Susan Bliss, Georgia, Cecil Minturn, Delicatissima and Dream now sell from 20c. to 50c. each, but there is only one Pink Satin and I am sure it will be outstanding for sometime to come.

The three best light blues are Sensation, Realm and Souv. de Loetitia Michaud, all three really perfect and all splendid growers.

Of course, the best dark blue is Blue Velvet, I think the finest dark Iris I have seen.

Red is a hard color to secure in breeding Iris, but as you dealers know, it is very popular among customers. For years we have had no red Iris of even fair quality, with the exception of Seminole, which I have always liked, but which was not a true red, and was rather small and short. Now we have three, all red, all far superior to anything brought out before and each separate and distinct from the others. The saying that it never rains but it pours, can well be applied in this case. These are Dauntless by Connell, Indian Chief by Ayres, and Numa Roumestan by Cayeux; the last is a clear fine red, beautifully ruffled. Please do not ask me which I like best. During blooming time the one I saw last was the one I liked best. All of these fine reds have very large flowers on tall strong stems, gracefully branched with none of the short branching effect of Peau Rouge.

Don Juan is a perfect giant among Iris. The foliage is of greater size, strength and height than of any Iris we know. The stems are tall and the flowers are enormous. Standards are light pink, falls bright red. Rose Marie is a new and unique color, a reddish violet entirely different from anything else.

Yves Lassailly bears enormous flowers on 4 ft. stalks; the color scheme is the same as Los Angeles. But whereas both are white, in Los Angeles standards and falls are edged pale blue, in Yves Lassailly the standards are pure white and the center of the falls is suffused light blue.

In Anna Marie Cayeux, the falls are a metallic blue on gray, strongly resembling the iridescent coloring of a pigeon's throat. And now, there are three more of Cayeux's which I have reserved for the last.

The first is Farandole with flowers of enormous size and a color absolutely new; it is French gray with strong suffusion of lilac rose in both the standards and falls. This variety will multiply on an average of four times a year. The next is Cassandre, a truly magnificent Iris with enormous flowers with standards of smoky rose, falls thick and velvety of a very deep, rich purple garnet. The last is Nene; the largest Iris which has ever been produced. Borne on stems 48 in. high and 2 in. in circumference, the flower is about 9 in. long. This will increase on an average of four times each year.

Another Iris of exceptional worth is Persia, originated by Dr. Ayres of Cincinnati; the standards are smoky blue and the falls a rich purple blue, the general effect being more blue than purple.

A new hybridizer entered the lists last year in the person of Prof. J. H. Kirkland, chancellor of Vanderbilt University. He introduced only four after a good many years of hybridizing in which he used only the finest varieties obtainable, as parents. The four he introduced are Andrew Jackson, Blue Banner, Mary Elizabeth and Morning Glory. I have seen them bloom for two years now, and can assure you that they are of the highest class.

Another Iris, practically the equal of any so far introduced, is Grand Monarch by Mrs. Rowell of Kansas City; it is a self color, bronze red of the deepest velvet texture and great substance.

I could tell you of a lot of others, but will mention only one more—Sir Michael. A friend of mine, an expert judge of Iris, abroad last Spring saw the big Chelsea show and also Iris growing in many of the best gardens in England; he said that the finest English Iris he saw, at the show or in the gardens, standing supreme over all, was Sir Michael.

In closing, I want to quote to you Eden Philpotts, the great English novelist and man of letters. He has said:

"Man has availed himself of the process of evolution in mightier matters than the Iris, but in no theatre of his unsleeping efforts has he awakened truer beauty or greater joy for flower lovers than in the Bearded Iris of June."

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SCIENCE SERIES No. 7

NOTES ON IRIS TROUBLES*

B. O. Dodge and Marjorie E. Smith

Soil Sterilization Experiments

The continued dying-out of plants of many varieties in the Iris "variety beds" at The New York Botanical Garden was so extensive during the summer of 1928 that some experimental work on soil sterilization was begun, in coöperation with Mrs. Wheeler H. Peckham, Honorary Curator of Iris and Narcissus Collections.[1] The purpose was to prevent in replants the development of *Sclerotium Delphinii* and other soil fungi or bacteria responsible for those losses which were clearly due to disease. Of the one hundred plants set out in the bed treated with formaldehyde and Dip Dust, as noted on page 9 of the article referred to above, only four

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* Extracts from Journal of The New York Botanical Garden, Vol. XXXI, February, 1930. No. 362.

[1] Dodge, B. O. Notes on some Iris troubles. Jour. N. Y. Bot. Gard. 30: 5–10. Ja 1929.

plants had died by August, 1929, *i.e.*, about one year after the replanting was done. The dead plants had been infested with the larvae of the lunate onion fly, *Eumerus strigatus*. The identification was obtained by Dr. C. R. Orton, who was coöperating at the time in the experiment. On the other hand, certain aconite beds in which also the *Sclerotium Delphinii* rot occurred in 1928, and which received no treatment, suffered severely from the disease again this year.

On April 1, 1929, the old plants which still survived in one of the untreated Iris beds, showing a great deal of disease, were taken up and the rotted parts of rhizomes cut away. The soil in the bed was dug up to a depth of ten inches and replaced with fresh soil. The rhizomes taken from the bed and treated with Uspulun were then replanted. Great benefit was derived from the addition of new soil and treatment of the old rhizomes.

Although the past dry season has served to hold in check the development of fungous diseases in the untreated Iris variety beds, continued dying-out of scattered plants has necessitated the extension of soil treatment, rhizome disinfecting, and replanting to all beds.

Bacterial Soft Rot

A noticeable amount of root rot has occurred in the "test plantings" at the propagating gardens during the past spring and summer. Single clumps, or several clumps in a row, have shown progressive drying of the leaves and final death of all plants in those clumps. Examination of the dying plants rarely failed to reveal a wet rot in the rhizome, exuding a sticky cream-colored substance with a disagreeable sour odor. This odor is a distinctive symptom of the Iris bacteria rot. The soft rot, although a frequent source of trouble in Iris beds, has not received the attention in the literature which its destructiveness warrants. *Bacillus carotovorus* Jones is generally said to be the cause of the rot, although other bacteria have been reported to produce the same symptoms.[2] This organism, represented by many different strains, also causes decay of a variety of vegetables, as well as of other ornamental plants.

No experiments have been reported determining exactly how *B. carotovorus* is carried from one plant to another, but Richard-

[2] Massee, George. Diseases of cultivated plants and trees, 519. New York. 1915.

Figure 1. Foreground: Iris bed four months after addition of new soil and disinfecting of rhizomes. Background: Recent replanting after sterilization.—*Courtesy of the New York Botanical Garden.*

son's[3] observations have led him to suspect that it depends mainly on the soil, and that a wound in the host tissue is usually necessary for entrance of the bacteria. Infection may occur, however, through stomata and lenticels. Smith[4] states that the usual mode of infection is through a wound in the host plant.

Richardson's work has thrown some light on the behavior of *B. carotovorus* within the plant tissue. He found it to be both inter- and intra-cellular. The cells of infected rhizomes were plasmolyzed, indefinite in shape, and showed disintegrated contents. The middle lomella was destroyed and the cells separated. A similar condition was found in the leaf tissue where the water-soaked areas marked the breaking apart and disintegration of the cells. The inoculation experiments of this investigator yielded no infection in the field, but in the laboratory his results were very similar to those to be described in the present account.

Inoculations experiments

Diseased plants in the "test" plantings at the propagating beds were the source of bacteria used in inoculations made in the laboratory and greenhouse in the present experimnt.

All plants inoculatd by puncturing developed typical rot symptoms, and bacteria were re-isolated from them. The progress of the wet rot upward from the base of the leaves where inoculation was effected is readily seen, as is the dull creamy bacterial ooze on the surface of the rhizome. The rotted tissue has been riddled by insects which were attracted in numbers to the diseased plants.

When bacteria from a culture were merely smeared on the surface of the leaves, no symptoms developed. Attempts were also made to cause infection by placing leaves of diseased plants in direct contact with those of healthy plants. Only one infection resulted. The positive results in this case were clearly due to the fact that the tip of the healthy leaf was broken.

A number of plants were brought into the laboratory, sprayed with a suspension of bacteria in sterile water, and placed under bell jars for observation. Infection resulted, but only after considerable delay, as compared with infection through wounding. In one case where the rot appeared after eighteen days, it caused three of the outer leaves of a plant to collapse. Later the

[3] Richardson, J. K. A study of soft rot of Iris. Ann. Rep. Quebec Soc. Prot. Plants 15: 105–120. 1922–1923.

[4] Smith, E. F. An introduction to bacterial diseases of plants, 231. 1920.

Figure 2. A. Iris plant eight days after inoculation with *Bacillus carotovorus*. B. Check plant wounded with sterile needle. C. Florida red-scale on Iris leaves.—*Courtesy of the New York Botanical Garden.*

pathogene seemed to lose virility and the plant recovered. In another case, water-soaked areas appeared after a few days at the tips of two leaves in contact with the moist wall of the bell jar. The rot failed to develop further in one leaf, but progressed slowly downward in the other until, eleven days after spraying, this leaf collapsed. The following day the leaf next to the prostrate one showed the wet rot at the base progressing upward. The evidence seems to be that infection may occur through uninjured leaves, but only after some delay and under the most favorable of conditions for the pathogene. There is a possibility that the leaves of the plants sprayed with bacteria were not absolutely uninjured, but may have had small punctures such as may be caused by insects. In any case, the conditions in that respect were similar to those which would obtain in the field. The fact that infection may result from bacteria which have gained a position on the leaves by whatever means—the splashing of infected soil by rain, the crawling of insects, or contact with soiled tools—should be taken into consideration in dealing with the disease.

No reference has been found in the literature to root infection. Consequently, a plant was selected for observation of the effects of inoculation at that point. It was allowed to remain in a damp chamber for a few days after being pulled up. At the end of that time there were only three roots which showed no sign of injury. Two of these were inoculated with bacteria by stabbing; the other (C), was stabbed with a sterile needle as a control. In two days the inoculated roots were brown, foul-smelling and soft with typical bacterial rot, whereas the control was still sound. A few days later, all the roots of this plant were sprayed with a bacterial suspension. Two days following, every root, except the original control (C), which had showed no injury, were rotting. This would indicate that infection might well occur, not only through the rhizomes and leaves, but also through roots and rootlets broken in the process of replanting and cultivating. The bacteria, however, are apparently unable to penetrate the unwounded root hairs and epidermis of sound fleshy roots.

Richardson reported a tendency of the organism causing soft rot to lose its infective power when kept in culture for several months. The strain used in the foregoing experiments has borne out this observation. The original isolation from diseased plants was made in June, 1929, and despite several re-isolations of the organism from inoculated plants, it has now (November) lost its

Figure 3.—A and B. Roots inoculated with *Bacillus carotovorus* by wounding. C. Check root wounded with sterile needle. D. Injured roots after spraying with bacterial suspension.—*Courtesy of the New York Botanical Garden.*

ability to produce symptoms of the rot and a fresh source of the bacterium must be found.

Control

In determining efficient control measures for the bacterial rot, the principal medium of transmission, namely, the soil, must be given first consideration. Sterilization with formaldehyde or other suitable disinfectant is frequently recommended. Replacement of badly infected soil with a new supply should go far in preventing recurrence of the disease. Some growers successfully prevent the rot by dusting "Semesan" about the base and in the hearts of Iris plants. Soaking the soil with proper mercuric compounds and treating diseased rhizomes with sulphur or a pink solution of potassium permanganate have also been recommended.[5] Injury to the plants should be avoided as much as practicable, and care should be taken in transplanting and cultivating that roots and leaves are not unnecessarily wounded. Another source of dangerous wounds in the rhizomes and roots may be the heaving action of thawing and freezing during winter months. In mulching to prevent this process, Mrs. Wheeler H. Peckham states that she has obtained the best results by the use of a thin layer of salt-marsh hay placed between the plants. Such treatment involves no danger of soil contamination and gives the rhizomes adequate protection from the heat of the sun and consequent thawing. Crowded planting favors the development of any disease through accumulation of rubbish and moisture. Ample space should be left between plants to allow free penetration of air and sunlight during the growing period.

Damping-off

A severe case of seedling damping-off was called to the attention of the pathologist this summer, and successfully controlled by a thorough spraying of the soil and young plants with Uspulun. Isolations from affected plants yielded cultures of one of the common damping-off fungi, *Rhizoctonia Solani* Kühn. Although this pathogene has a wide range of hosts, no mention has been found in the literature of its having caused such Iris trouble.

Insects

Last summer's dry weather, while checking some of the fungous diseases, may have lowered the resistance of plants to a degree where certain insects became an unusual menace.

[5] Gregory, C. T., and Davis, J. J. Common garden pests. Published by Better Homes and Gardens. 1928.

Aphid

Both Japanese and German Iris have been hosts to the aphid *Anuraphis Tulipae* Boyer during the past season and have required treatment with Black-Leaf-40 and soap. This sucking insect feeds on the upper parts of leaves as well as on the base near the growing point, often below the soil surface.

Verbena Bud-Moth

In August two insects destructive to the seeds of valuable crosses were reported at work in the Iris garden. One of these, the Verbena bud-moth, *Olethreutes hebesana* Walker, was first noted in its pupal stage. The brown pupa case projects from a black-ringed hole in the seed pod, where the larvae have been feeding for about three weeks. Three days after emergence of the adult, the egss are desposited on the pod surface. The hatched larvae enter the pod and feed on the seeds until ready to pupate. As there are at least four generations during the season, several applications of an insectide such as arsenate of lead should be made, beginning soon after the pods begin to form. The insect overwinters as larvae or pupae in cocoons on the leaves or within seeds.[6] It has been widely reported not only as a pest of Iris, but as a a "general feeder" on plants.

Weevil

The other insect observed attacking Iris seeds was identified by Dr. K. F. Chamberlain, assistant state entomologist, as the weevil *Mononychus vulpeculus*. This insect tunnels through the seeds, eating out the embryo and leaving of each seed only a thin ring. At the end of a tunnel which sometimes extends through a whole row of seeds, the small dark weevil may be found with its flat disk-shaped body fitting snugly into the last seed it has mutilated. This pest has been commonly found in the seed pods of native Blue Flag, according to Dr. Chamberlain, but its occurrence on cultivated Iris is somewhat rare. It was reported in 1921 from Connecticut[7] as eating the petals and breeding in the seed pods of Japanese Iris, and in 1926 in Iris pods on Staten Island.[8] Its presence of Bronx Park, though not in connection with Iris, has

[6] Ries, Donald T. Two Iris Insects. Bull. Am. Iris Soc. 32: 27–47. Jl 1929.

[7] Britton, W. E. Twenty-first report of the State Entomologist for 1921. Conn. Agr. Exp. Sta. Bull. 234: 194.

[8] A list of the insects of New York. Cornell Univ. Agr. Exp. Sta. Mem. 101: 506. Aug. 1926.

also been reported.[8] The limited extent of its injury to cultivated plants has not warranted a study of control methods, but, as the adult weevils are flying as early as May, applications of an arsenate of lead spray early in the season should kill the insect before its eggs are laid and the larvae bore into the pod.

Citrus Scale on Iris Plants

An interesting infestation is the Florida red-scale (*Chrysomphalus aonidum* L.) on Iris leaves. It occurred in the propagating greenhouse, where an infested citrus seedling and some Iris plants potted for experimental purposes were in proximity. This small circular red scale is usually confined to citrus plants in greenhouses, but may live on a variety of hosts. The injury was not considered serious and the insect was allowed to develop to determine to what extent Iris plants would serve as hosts. The plants affected present a very disfigured appearance with conspicuous chlorotic spots about the insects, converging into large yellow areas. So far, several varieties are infested, but, as the pest appears to be spreading, it will be necessary to treat infested plants in order to save them.

FURTHER NOTES ON IRIS BEHAVIOR

J. Marion Shull

In earlier contributions to the Bulletin I have shown how the Iris may persist when buried deeply in the soil even in an inverted position; how it will thrust up an attenuated slender growth until the surface is reached, where it again assumes its horizontal, half aerial, habit of growth and again thickens up and acquires the necessary strength for flowering; also that repeated taking up and resetting after pruning the roots is not necessarily such a discouragement as to prevent the formation of blossom buds for the ensuing season.

In the present case the rhizome has been subjected to a different type of abuse, the result bearing directly upon the question of world-wide distribution of the tall bearded Iris as a garden favorite.

The plant here pictured is Lent A. Williamson, taken up shortly after blooming time in 1928. Not being needed for immediate replanting it lay in the open air on a little-used garden seat, in the shade for the most part but otherwise entirely unsheltered. Here it lay throughout the remainder of the growing season and through

the following winter with its occasional approaches toward zero temperatures. In the spring garden cleaning the old seat was removed and junked but the plants were thrust into forks of a nearby privet, several feet off the ground. When they had rounded out a good full twelve months in the open air without soil contact of any kind and with only such moisture as uncertain and sometimes infrequent rains had brought them they were taken into the laboratory and photographed. One of these is presented herewith as it appeared the last week of July, 1929. There was no apparent growth of top or roots throughout the year but this plant which

1—Iris Lent A. Williamson photographed natural size July 25, 1929, after a full year of exposure to the open air without contact with soil. This rhizome was then planted August 4, 1929, and allowed to grow for 46 days when it was again taken up and growth photographed on September 19, 1929, as shown in the succeeding illustration (about half natural size).

had thus lain dormant through the hottest and driest of summer months and through the coldest of the winter was then returned to the earth only to be taken up again on September 19, after 46 days in the moist soil, at which time growth of roots and top were as shown in the second photograph.

We may never know who brought the first rhizome of the tall bearded Iris to America, or whether any of them "came over in the Mayflower," but from the evidence here presented we may be sure that they were quite capable of having withstood the long voyage with a considerable margin to spare.

2—Iris Lent A. Williamson taken up in midsummer, 1928, and exposed for a full year to open air without any contact with soil. Replanted July 25, 1929 and again taken up after 46 days in the soil, this photograph being taken September 19, 1929. About half natural size.

TID-BITS 21ST

From Mrs. J. Edgar Hires.

The gods of spring have gone modern! No more are they satisfied with a jaunting cart and a leisurely trip northward but must come on the wings of the latest tri-motor and catapult us from January's snows into the arms of "Our Lady of the Rain." One wonders what the flower children think while they follow their pied piper. Do they not long for a slower awakening, a softer treading of the steps that lead from their dark coverlets to the morning sun? And for us who have been awaiting the return of spring what message does it bring? Is it that we planned well those Indian Summer days and having seen that each treasure was tucked in for its winter sleep may now have the time to give to each its full share of spring attention. Or must we hasten to make what amends we can for carelessness in those hurried days of fall? And what of the irises? Were the dead leaves carefully removed and burned hoping thus to destroy many eggs of the iris borer? If not, that should be one of the first of the spring chores. Then they should all be looked over carefully for signs of winter's toll so often shown in soft spots around the tip of the blooming fan. Each year I think I will cut the leaves of the evergreen varieties to within a few inches of the ground, hoping thus to prevent spring rot from the soggy leaves that lie in the rhizomes through the winter months. But each fall it is neglected, so there is always some loss that possibly could be avoided. As I search out the plants showing signs of it these first March days I promise to do better the coming fall. May I keep faith with these flower children!

For some of these tender irises why not try cloches? Kellogg writes of the waxed paper ones put out by Vaughans and of the glass ones that come from England. Mr. Duffy finds tar paper covers very satisfactory and others have used small boxes, leaving a few inches of space at the bottom to allow a circulation of air. Mr. Morrison suggests peat moss and Mr. Duffy tried it this winter with great success, finding it resistant to rain and melting snow.

A note from Prof. Mitchell just before he sailed for Europe contains much of interest regarding new seedlings and the promise for the future. He speaks of a lemon seedling that in 1929 produced seventeen blooms on a branched stem, which had secondary branches. As I recall, Mr. Bliss had a seedling a few years ago

showing this secondary branching, so it is possible our irises of the future may grow as small trees!

From Mrs. Lothrop comes word of the formation of an Iris Society at San Bernardino. Dr. Williams, of Patton, is the president and Mrs. Williams, secretary-treasurer. Mrs. Lothrop is chairman of constitution and rules and Mrs. R. D. McCook of the spring flower show. Dr. Williams is particularly interested in the western species and all apogons.

Mrs. Saunders has been doing much work with the apogons and species during the past couple of years. Let us hope her efforts will be crowned with success. Would that others might venture along the little trodden path of breeding the apogon species. When the members have the opportunity to see color photographs of the lovely pink seedling Dr. Reed obtained from a Dorothy K. Williamson cross many others will begin to consider the apogons. I rather think our Belgium member, Mr. Joseph Aerts, is doing some fine work with species as he is placing most of his bearded irises in the Vilvorde garden near Brussels in order to have room for his species and seedlings. Mr. Aerts has given two hundred and fifty varieties to this garden, many of the American varieties having been sent through the kindness of Mrs. Lewis R. Smith, Mrs. C. A. Shull and Mr. Schreiner, to whom Mr. Aerts had sent seed. Most of these plants are of the earlier originations of our breeders, though Coppersmith, Valencia, Tropic Seas, Geo. J. Tribolet, Prairie Gold, Buto and Vesper Gold were among the varieties mentioned. If any of our members have rhizomes to spare for this garden I am sure they would be of great help in furthering the plan now underway for the formation of a Belgian Iris Society. I will gladly send a list of the American varieties now in this garden to any one interested in adding varieties to it.

Who in this country has seen Sirius (Bun.) ? From an English correspondent whose opinion of irises I value very highly came word that it was the best iris raised in England in 1927 and 1928. It is much finer than Souv. de Mme. Gaudichau according to reports, the blooms much larger, the stalks tall and branching. The Orpington Nurseries Company listed it in 1928, but most of our growers seem to have been caught napping as I find it in only one list here. Mr. Schreiner mentioned it in his 1929 catalog and will have it for sale in 1931. He also lists Sirius (Vil.) in the light blue

section of his 1929 catalog. Do not confuse the two as Sirius (Bun.) is dark blue.

Pluie d'Or is evidently taking kindly to our varied climate. Mrs. Pattison says it is a very smooth flower of better shape than Gold Imperial. Mr. Duffy writes it is tall with widely branched stems, the bloom being very much like Gold Imperial. Prof. Mitchell considers it, as it showed in Mr. Salbach's garden last summer, the best yellow iris in commerce.

M. Cayeux is introducing the long awaited No. 4196 under the name President Pilkington. The iris world has been awaiting this seedling for several years, as it is said (by those who have had the good fortune to see it) to be much taller and larger than Louis Bell and even darker. An iris of that richness of color, combined with its other fine qualities, will surely find a welcome awaiting it in this country. When I first read of it in one of the bulletins of The Iris Society, I knew what it was to covet those plants that grow in my neighbor's garden and asked Mr. Pilkington whether he had heard when it was to be introduced. At that time, M. Cayeux was considering naming another seedling for Mr. Pilkington, but the latter's friends will all rejoice that this much finer one has been chosen to bear the name of one who is doing so much for the iris in England. When Mrs. Pattison visited M. Cayeux's garden two years ago she succeeded in getting him to part with one rhizome of this seedling and visitors to her garden this year will have an opportunity to see it in bloom. Would I could be among those present!

Mr. Williamson is preparing to return to Bluffton from his winter at Ann Arbor where he has been having a grand time in the research department of the Museum of Zoology at the University of Michigan. The late fall found him off on a dragon fly hunt, which extended through the south central states. In New Mexico, Oklahoma, Louisiana and Texas he made good catches of lizards, grasshoppers, snakes, etc., which must have brought much peace to the soul of this naturalist after a long iris season. How fine a life one can live having two hobbies that do not conflict.

Dr. Scott, as chairman, has the plans well under way for the annual meeting at Lexington in May. It promises to be a great gathering as new recruits signify their intention to join the ranks of the iris vagabonds who yearly hie forth at the first sign of bloom.

Washington members are planning to hold their show in the sun parlor of the Washington Hotel, which is situated on the roof and largely glass enclosed, so it should be an ideal place for a show. While on the subject of shows wouldn't it be nice if the local committees could impress upon the exhibitors how much finer a show would be if each would give more thought to a more harmonious staging of collections. Of course all shows are a grand rush at the last moment and everyone is in a hurry to get exhibits staged, so when it comes to thinking of harmony—it just isn't done. But if thought was given to color when placing the varieties in collections how much more lovely the effect could be and I venture the opinion that a collection staged with harmony of color grouping in mind would have the advantage over others less carefully arranged. Lovely, soft blends lose their charm when placed beside a brilliant velvety variety, while pale blues and clear yellows serve to enhance their pastel coloring. Give a bit of the thought to a show that is given to garden planting and see how much more attractive it will be.

And now though I be accused of rank heresy I cannot resist sticking one small pin in the "lime for iris" bubble. Years ago in another garden we had no rot, the irises growing Topsy-like with no special care or diet. Then with much talk from all quarters of the need of lime I began to think how sadly mine had been neglected and how wonderful they had been to give such gorgeous bloom with no reward. So new beds were made and heavily limed, while at planting time each was given a nice feeding of bone meal. For the next two years we fought rot unceasingly, blaming the rainy spring for its being. But in looking through garden records of other years we found there had been as much rain so the condition of the soil in the old garden was considered. Then came the thought "What effect has acidity?" and why not experiment. So for the past tree years no lime has been used and each season has seen a lessening of rot. Last season there was none, except the loss in March of a few blooming tips from winter kill and I really believe it is because the soil is gradually becoming acid. How pleased I was to have Mr. Duffy say, in a recent letter, that liming the soil certainly promotes rot in the section where he lives, as no one likes to be set apart as a rank Philistine among good irisarians. I wish others who may be troubled with it would experiment a bit and tell us of their findings.

'Tis rumored that Mrs. Pattison's new catalog will offer the new seedling from Jacob Sass, of which she bought the entire stock. Several correspondents have told me that the outstanding American seedlings at Freeport last year were Blue Velvet, from Dr. Loomis, and Pink Satin, this new seedling from Mr. Sass. Mr. Duffy, who really knows irises, says they were the only ones comparable in quality with the new Cayeux things. Blue Velvet is being hailed by all who have seen it as the finest seedling of the Dominion race. Pink Satin is a Trostringer seedling, larger, taller and pinker—nearer true pink—than Caroline E. Stringer.

For many months I have been saving a very choice bone for picking with Mr. Sturtevant and see no reason why others should not share it with us and call the rounds. In his "Comment by Color" on the iris symposium he spoke of close ratings for yellows for garden and exhibition, saying, among other things "For cutting they may be lovely but as individual varieties on exhibition, and that is what we are supposed to rate, the yellows are not in it at all." To this I take exception, feeling that, though we have no yellows comparable in size to such things as Leonato, Ambassadeur and Mary Barnett, they should be rated for exhibition without thought of size and without comparison with more favored (by nature) varieties in other sections. Are they not as fine in their class as the big blues or blends in theirs? Are not the blooms as well placed on the stalks of some of these yellows as they are on many of the varieties that carry off the honors in the blue, pink or blend specimen classes? And is not the quality as good? Surely they are as greatly needed in a show as in the garden picture. Deliver me from having to look at a show where one sees but masses of blue purple or rich blends. A show without yellow irises would be as a julep without mint. One has but to think back to the day before Miss Sturtevant blessed our gardens with yellow irises to think how monotonous an iris planting was, unless interplanted with some other yellow flower, to realize just what we would have in shows did we not have these garden yellows to add the final touch to a show picture. We could not get the desired effect from variegatas. It requires the clear yellow selfs. So why not remember they are "less favored by nature" as Mr. Strutevant says, and until such a time as we have clear yellows of a size and form comparable to the best of those more favored, consider these yellows purely in their own merits and give them an exhibition rating commensurate with their value for the show picture.

Dallas, Texas, is to become known as "The Iris City" if the plans of Mrs. Scruggs and her co-workers are fulfilled and at present they seem to be well under way. Mr. Wister spoke there in February, his iris lecture being the fillip needed to stimulate interest. Mrs. Scruggs says there has been a most surprising Iris Society developed since his visit, between 150 and 200 having become members since the organization meeting March 8th. Mrs. Murrell L. Buckner, president of the Dallas Garden Club, was elected president, Mrs. T. T. Price is corresponding secretary and Mrs. Scruggs is one of the vice-presidents. Plans are under way for an iris show this spring, and a display garden is being developed. The display garden was started at the request of Mrs. Hoornbeck, our chairman of Display Gardens, and it is hoped many of our members will help in developing this garden by sending irises. Very few have so far been sent, the local members having supplied all they could. I do not know the best planting season for Texas, but any one wishing to add to this collection can learn this by writing Mrs. Gross R. Scruggs, 3715 Turtle Creek Boulevard, Dallas, Texas. Plants may be sent directly to Mrs. Scruggs for this garden.

FROM MRS. CLUTTON, ILLINOIS.

"Symposiums are so interesting. I do feel, though, that about 96 per cent. of iris growers are more interested in iris color than in anything else and if something could be done toward selecting the few best of each color, irrespective of height, size, etc., that it would be the greatest possible incentive. If the novice could pick up a catalogue (or an Iris Bulletin) and read that for color alone, in the pale blue class, of about the color of Princess Beatrice, the following 5 or 10 were the choicest, etc., wouldn't the farmer's wife who perhaps sees but few varieties, the beginner, make a much more satisfactory selection if some such list were available?"

An interesting suggestion but most controversial. In most classes the selection of so few a number is purely personal, so many are there to pick from. Note on your Color Classification the latest ratings and the job is done BUT you yourself may not like the selection and have quite a different list. A few varieties only, things like Valencia, Du Guesclin, even Sweet Lavender have unique color value but that does not mean 95 per cent. of the people want them. I doubt if Mrs. Clutton would really like the selection of another.

HOLDING IRISES FOR EXHIBITION—Jacob Sass.

To cut irises for cold storage pick out the best stalks and be sure that the terminal flower will open when shown. Cut the blooms between 8 and 10 A. M., selecting stalks with large buds that will open the following day. Tie 8–12 stalks in a bunch; wrap the flower ends with heavy paper leaving the butts sticking out 3–4 inches; set these in a gallon bucket half full of ice water and place in storage. The temperature should be maintained at from 40 to 42 degrees Fahrenheit.

This is not as cold as for peonies.

Last year I had irises in cold storage for two weeks and yet after even another week, on account of the postponement of a show, they all came through in fine shape and lasted for two days.

While in storage be sure that the stalks stand upright as otherwise the flowers turn upwards.

Usually, by going through the garden each morning, I can select stalks with the second top bloom developing as this gives two or more flowers on the same stalk. Often flowers cut late in the morning partly open in storage and last but an hour when taken out.

When taking to a show I pack the bunches as they have been in storage in heavy card-board boxes and carry them myself. On arrival the boxes are opened immediately, the stalks cut about an inch and set in water. In two hours the flowers will open and last for two days. I have had iris in storage two weeks and won a silver medal at a show 400 miles away.

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FORCING BULBOUS IRISES. Edited by The General Bulb Growers' Society, Haarlem, Holland.

There are, in the trade, three groups of bulbous irises, each in several varieties, offering splendid material for forcing, viz.: *Iris tingitana,* Dutch Iris (with the tingitana and filifolia hybrids), and Spanish Iris. These are all sold in different sizes and the largest will succeed best for forcing, particularly for early forcing.

1. WHAT TO DO WHEN THE BULBS ARRIVE.

Forcing bulbs are delivered about mid-September and should be planted at once in pots or boxes. If this is impossible spread them out on trays in a cool, dry place.

The varieties selected for forcing must be planted at once but those to be planted in open benches may be stored carefully as late

as November, the temperature being maintained at from 55–60 degrees F.

2. THE SOIL.

Fresh soil not previously used for either irises or tulips, without compost or impurities and sufficiently porous; poor soil may be enriched with well-decayed manure but no fresh manure is safe and commercial fertilizers are not advised. Water the soil well before planting the bulbs.

3. WHERE TO PLANT.

Pots are best though pans or boxes may be used if deep. New pots must always be thoroughly cleaned and soaked to remove impurities and old pots should be disinfected (formalin, Uspulin, etc.). These cleanings should be done a long time before the pots are used. Drainage is necessary.

Space the bulbs 1½ inches apart.

4. PLUNGING.

In cold climates where a storage pit is not available pots must be plunged to half their height in beds and covered with a 2-inch layer of soil and straw or litter. In milder climates, the straw is sufficient but should be kept moist.

5. WHEN TO BRING IN.

When frost is expected the pots should be brought into a temperature of 40–45 degrees, which must be maintained till the buds are developing when the temperature can be raised to 55 per cent. degrees or a bit higher as the buds develop.

These irises want much water, much more than other bulbs and particularly when they are above the heating pipes. Do not overwater when the buds are just coming.

6. VARIETIES ARRANGED ACCORDING TO TIME OF BLOOM.

A. Very early: *Iris tingitana;* Dutch Iris David Bles, The First, Wedgewood.

B. Early: Dutch Iris: Albert Cuyp, Abr. Bloemaert, Anton Mauve, Van Everdingen, E. B. Garnier, Van der Helst, Huchtenberg, Poggenbeek, *filifolia praecox,* Rembrandt, Seeghers, Theophile de Bock, White Excelsior, Yellow Queen.

C. Later; Dutch Iris: Bakker Korff, Celestial, D. Haringh, Imperator, A. L. Koster, Therese; Spanish Iris: British Queen, Cajanus, Flora, Golden Wonder, Queen Wilhelmina.

7. GROWING IRISES IN COOL HOUSES.

Plant on arrival in fresh, nutritious mouldy soil—well-drained and moist. Space 3 inches apart for the broader leaved varieties, a little less for narrow leaved ones. Spanish and Dutch succeed well.

INFORMATION REQUESTED.

In sending in their votes a few members have suggested points that they would like discussed in the Bulletins and I am hoping that other members may aid in solving these needs or add even more.

Discussion and description of new varieties each year by several different members with comparisons of the new with the old and the publication of informal or temporary ratings are both subjects for cooperation. The informal symposium was attempted some years ago. It seemed to arouse little interest and to secure any results took far more time than the Editor has at his disposal at present. He has much enjoyed, however, some contributions on the subject (notably that of Dr. Ringueberg in No. 31) and a compilation based on current catalogues would prove most helpful.

As it is we publish all descriptions and comments received and they are none too numerous as you can well see.

An article on Winter Blooming Irises is desired; also cultural directions on rare species as well as lists of nurserymen who grow them and we always value notes on what irises do in new localities, Montana, Florida, or New Mexico, perhaps.

COMMERCIAL PEONY AND IRIS GROWERS' ASSOCIATION.

December 2 and 3, 1929, the Commercial Peony and Iris Growers' Association held its fourth annual meeting at the Hotel LaSalle, Chicago, Ill. This association is advancing the cause of the peony and iris in a splendid manner and the interest is increasing yearly. An exceptionally varied program, with attractions for all, provided a most interesting two days' session. A splendid report of the meeting appears in the December 5 number of the *Florists' Review,* and some of the principal papers will also appear in this same publication at a later date. President P. L. Battey, of Glencoe, Ill., was re-elected for another year and under his able leadership the society is assured of continued advancement. Officers for the year 1930 are as follows: President, P. L. Battey, Glencoe, Ill.; Vice-President, Sam Carpenter, Oswego, Kan.; Treasurer, W. L. Gumm, Remington, Ind.; Secretary, H. T. Beckmann, Van Wert, O.

NOTICE

Details of the $100.00 Prize offered by Robert Wayman will be found on page 40 of BULLETIN No. 15.

Publications available from Science Press Printing Co., Lancaster, Pa.

Checks payable to American Iris Society.

Bulletins

No. 1. June, 1920. The Culture of Irises in the United States. 32 pp. Out of print.

No. 2. January, 1921. Garden Irises, Past and Present. 44 pp. The Development of Tall Bearded Irises in the 19th Century. Sir Michael Foster and his Irises. Registration and notes on hybridization and garden effects. $1.00.

No. 3. June, 1921. Sir Michael Foster and his Work. 32 pp. Illustrated. Out of print.

No. 4. January, 1922. 34 pp. Check List. Out of print.

No. 5. May, 1922. Symposium. 32 pp. Numerical ratings of some 700 varieties which are a most valuable guide to the relative value of standard varieties. Out of print.

No. 6. October, 1922. Description of Varieties, Part I. 40 pp. Notes on European Irises (see also Nos. 7, 9 and 12). $1.00.

No. 7. January, 1923. Descriptions of Varieties, Part II. 40 pp. Articles by A. J. Bliss, W. J. Caparne, and J. M. Shull. $1.00.

No. 8. October, 1923. Check List, October, 1923. 40 pp. Out of print.

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